

**Amendments to the Claims:**

1. (Currently Amended) ~~Process~~ A process for separation of a monomer comprising at least one double bond from a composition Z comprising said monomer and at least 0,001 wt-% water as one impurity which is different to said monomer, said process comprising the steps of:

forming a separation phase by bringing said composition Z into contact with an additive, wherein said additive has a melting point of at most about 150 °C and a vapour pressure of at most about 1 mbar at a temperature of about 20 °C, by ~~forming a separation phase as well as; and~~

separating said monomer from said separation phase.

2. (Currently Amended) ~~Process~~ The process according to claim 1, ~~with~~ wherein said additive comprises ~~comprising~~ at least:

- i. [[a]] an ionic liquid; or
- ii. a highly branched polymer; or
- iii. a mixture of at least two thereof of said ionic liquid and/or said highly branched polymer.

3. (Currently Amended) ~~Process~~ The process according to claim 2, wherein said highly branched polymer has at least about three 3 repeating units per molecule, each comprising at least about three possible binding sites, wherein at least about three of said repeating units are each attached via at least about three possible binding sites to at least about three other repeating units.

4. (Currently Amended) ~~Process~~ The process according to claim 2, wherein said highly branched polymer has at least about three 3 repeating units per molecule, which have respectively at least about three possible binding sites, wherein at least about three of said repeating units have at least about two possible binding sites.

5. (Currently Amended) ~~Process~~ The process according to claim 2, wherein said ionic liquid is liquid at a temperature of about 20 °C and has a viscosity in a range from about 1 to about 10,000 mPa×sec.

6. (Currently Amended) ~~Process~~ The process according to claim 1 ~~one of the foregoing claims~~, wherein the ~~selective~~ separation of said monomer from said composition Z which has been brought into contact with said additive occurs by distillation or by extraction or ~~crystallisation~~ crystallization or a combination of at least two thereof.

7. (Currently Amended) ~~Process~~ The process according to claim 1 ~~on of the foregoing claims~~, wherein said additive is brought into contact with said composition Z, said additive being in a quantity in a range from about 0.01 to about 95 wt.% based on the total weight of the additive and the composition Z.

8. (Currently Amended) ~~Process~~ The process according to claim 1 ~~one of the foregoing claims~~, wherein said additive is recycled.

9. (Currently Amended) ~~Process~~ The process according to claim 6 8, wherein said recycling of said additive occurs by a separation step requiring energy input.

10. (Currently Amended) ~~Process~~ The process according to claim 1 ~~one of the foregoing claims~~, wherein said monomer is (meth)acrylic acid.

11. (Currently Amended) ~~Process~~ The process according to claim 1 ~~on of the foregoing claims~~, wherein said composition Z is an acrylic acid-comprising composition ZAA based on

(γ1) from about 5 to about 99.994 wt.% monomeric acrylic acid, and as impurity

(γ2) at least about 0.001 wt.% of at least one acrylic acid oligomer,

- (γ3) at least about 0.001 wt.% acetic acid,
  - (γ4) at least about 0.001 wt.% propionic acid,
  - (γ5) at least about 0.001 wt.% of at least one aldehyde,
  - (γ6) at least about 0.001 wt.% maleic acid or maleic acid anhydride,
  - (γ7) at least about 0.001 wt.% of at least one by-product which is different from the components (γ1) to (γ6) and
  - (γ8) a residual quantity of a fluid and
- wherein the sum of the components (γ1) to (γ8) amounts to 100 wt.%.

12. (Currently Amended) ~~Process~~ The process according to claim 1 ~~one of the foregoing claims~~, wherein at least one impurity is depleted.

13. (Currently Amended) A device for synthesis of a monomer comprising the following components in a fluid-conducting assembly:

- (δ1) a monomer synthesis unit ~~(1)~~ comprising a gas phase monomer synthesis unit ~~(1a)~~ with a quench unit ~~(2)~~ following said gas phase monomer synthesis unit ~~(1a)~~, or
- (δ2) a liquid phase monomer synthesis unit ~~(1b)~~,
- (δ3) optionally a first purification unit ~~(3)~~ following said liquid phase monomer synthesis unit ~~(1b)~~ or said quench unit ~~(2)~~,
- (δ4) a first monomer separation unit ~~(4)~~, comprising as components:
  - (δ4\_1) a conduit for a monomer-comprising composition Z ~~(5)~~ connected with said liquid phase monomer synthesis unit ~~(1b)~~ or with said quench unit ~~(2)~~ or with said optionally present first purification unit ~~(3)~~,
  - (δ4\_2) an additive conduit ~~(6)~~,

- (84\_3) a contact region (7) which receives the conduit for a monomer-comprising composition conduit (5) and said additive conduit (6),
- (84\_4) a conduit (8) exiting said contact region (7) for separated monomer.
- (85) a recycling unit (12) for the additive, which on its part comprises the following components:
- (85\_1) an inlet (13) for a composition comprising the additive, which is connected in fluid-conducting manner to a separating element (14),
- (85\_2) exiting said separating element (14), an outlet (15) for said additive, which is connected in fluid-conducting manner to said additive conduit (6) or said contact region (7),
- (85\_3) exiting said separating element (14), an outlet (16) for said monomer, which is connected in fluid-conduction manner with said conduit (8),
- (86) exiting said contact region (7), an inlet (13) which is connected with said recycling unit (12).

14. (Cancelled)

15. (New) A separation aid for the separation of at least one monomer comprising at least one double bond from monomer-comprising compositions which comprise at least about 0.001 wt.% water as impurity further comprising an additive having:

- i. a melting point of at most about 100 °C at a pressure of about 1 bar, and
- ii. a vapour pressure of at most about 1 mbar at about 20 °C.